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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,416	11/16/2001	Martin Thomas Miller	455610-2420	8540

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EXAMINER	
WEST, JEFFREY R	

ART UNIT	PAPER NUMBER
2857	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/988,416	MILLER ET AL.	
	Examiner	Art Unit	
	JEFFREY R. WEST	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-6,11,13,23-27,32 and 43-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-6,11,13,23-27,32 and 43-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/11/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February, 11, 2008, has been entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was

made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-6, 11, 23-27, 32, 43-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over National Instruments, "Computer-Based Instruments: NI 5911 User Manual Digital Oscilloscope for PCI" (hereafter "NI 5911") in view of National Instruments, "NI-SCOPE Instrument Driver Quick Reference Guide: Easy Programming for National Instruments Oscilloscopes" (hereafter "Reference Guide").

NI 5911 discloses a digital oscilloscope (page 1-1) that is graphically programmed according to the "NI-SCOPE Instrument Driver Quick Reference Guide: Easy Programming for National Instruments Oscilloscopes" (page 1-3) by accepting input parameters (page 1-4) and processing an inputted waveform accordingly to provide a corresponding display (pages 1-5 and 2-9 – 2-11), but does not describe the corresponding graphical programming.

With respect to claim 43, Reference Guide teaches receiving one or more input parameters (i.e. user-specified thresholds, scalar measurements, statistics, constants, etc.) (pages 3, 7, and 8, niScope_ConfigureEdgeTrigger, niScope_ReadWaveformMeasurement, niScope_FetchWaveformMeasurementStats, niScope_FetchMultiWaveformMeasurement) ; defining a plurality of processing elements based upon said received one or more input parameters (pages 3, 7, and 8, configEdge, READMEAS, FETCHSTATS, FETCHMEAS), each of said plurality of processing elements adapted to receive waveform data and to process the received waveform data in accordance with said corresponding input parameters (pages 3, 7,

and 8, configEdge, READMEAS, FETCHSTATS, FETCHMEAS); and less than all of said processing elements having update inputs activated to process the waveform data received thereby (i.e. Repetitively Acquiring Data processors performing continuous acquisition while Fetch More Data processors updating when commanded) (pages 4, 7, and 8, NISCOPE INITIATE, NISCOPE ABORT, and NISCOPE READ, READMEAS and FETCHSTATS, and Figure) and graphically connecting said plurality of processing elements to define a processing web (Figure, page 8); wherein at least one of said plurality of processing elements having an update input responds to the activation of said update input to request processing from an upstream one of said plurality of processing elements that does not have an update input and that is idle until receipt of said request, so that upon said request, the upstream processing element performs said request processing to process a received waveform data, and provide the processed waveform data to the at least one requesting processing element (i.e. when FETCHSTATS is executed it requires measurement data to be processed and thereby requests READMEAS to process a waveform in order to provide FETCHSTATS with the required measurement data as a result of the fetch) (page 7, READMEAS and FETCHSTATS).

With respect to claim 45, Reference Guide teaches a plurality of processing elements that are defined based upon one or more received input parameters (i.e. user-specified thresholds, scalar measurements, statistics, constants, etc.) (pages 3, 7, and 8, niScope_ConfigureEdgeTrigger, niScope_ReadWaveformMeasurement, niScope_FetchWaveformMeasurementStats,

niScope_FetchMultiWaveformMeasurement), each of said plurality of processing elements performing a discrete processing function (pages 3, 7, and 8, configEdge, READMEAS, FETCHSTATS, FETCHMEAS), each of said plurality of processing elements adapted to receive waveform data and to process the received waveform data in accordance with said corresponding input parameters (pages 3, 7, and 8, configEdge, READMEAS, FETCHSTATS, FETCHMEAS); and less than all of said processing elements having update inputs activated to process the waveform data received thereby (i.e. Repetitively Acquiring Data processors performing continuous acquisition while Fetch More Data processors updating when commanded) (pages 4, 7, and 8, “NISCOPE INITIATE”, “NISCOPE ABORT”, and “NISCOPE READ”, "FETCHSTATS”, and Figure) and a plurality of connections indicated graphically between said plurality of processing elements to define a flow of information therebetween (Figure, page 8); wherein at least one of said plurality of processing elements having an update input responds to the activation of said update input to request processing from an upstream one of said plurality of processing elements that does not have an update input and that is idle until receipt of said request, so that upon said request, the upstream processing element performs said requested processing to process a received waveform data, and provide the processed waveform data as a result from the processing to the at least one of the plurality of processing elements requesting the processing (i.e. when FETCHSTATS is executed it requires measurement data to be processed and thereby requests READMEAS to process a waveform in order to provide FETCHSTATS with the

required measurement data as a result of the fetch) (page 7, READMEAS and FETCHSTATS).

With respect to claim 47, Reference Guide teaches a plurality of processing elements that are defined based upon one or more received input parameters (i.e. user-specified thresholds, scalar measurements, statistics, constants, etc.) (pages 3, 7, and 8, niScope_ConfigureEdgeTrigger, niScope_ReadWaveformMeasurement, niScope_FetchWaveformMeasurementStats, niScope_FetchMultiWaveformMeasurement), each of said plurality of processing elements performing a discrete processing function (pages 3, 7, and 8, configEdge, READMEAS, FETCHSTATS, FETCHMEAS), each of said plurality of processing elements adapted to receive waveform data and to process the received waveform data in accordance with said received input parameters (pages 3, 7, and 8, configEdge, READMEAS, FETCHSTATS, FETCHMEAS); and less than all of said processing elements having update inputs activated to process the waveform data received thereby (i.e. Repetitively Acquiring Data processors performing continuous acquisition while Fetch More Data processors updating when commanded) (pages 4, 7, and 8, “NISCOPE INITIATE”, “NISCOPE ABORT”, and “NISCOPE READ”, "FETCHSTATS”, and Figure), and a plurality of connections indicated graphically between said plurality of processing elements to define a flow of information therebetween (Figure, page 8); wherein at least one of said plurality of processing elements having an update input responds to the activation of said update input to request processing from an upstream one of said plurality of processing elements

that does not have an update input and that is idle until receipt of said request, so that upon said request, the upstream processing element performs said requested processing to process a received waveform data, and provide the processed waveform data as a result from the processing to the one of the plurality of processing elements requesting the processing (i.e. when FETCHSTATS is executed it requires measurement data to be processed and thereby requests READMEAS to process a waveform in order to provide FETCHSTATS with the required measurement data as a result of the fetch) (page 7, READMEAS and FETCHSTATS).

With respect to claims 2 and 23, Reference Guide teaches wherein at least two of said plurality of processing dements are updated at different speeds (i.e. READMEAS is updated based on the acquisition speed (maxTime) and FETCHSTATS is updated based on a result of the READMEAS and is therefore inherently slower).

With respect to claims 3 and 24, Reference Guide inherently teaches that a processing object of the oscilloscope desiring the calculation of the measurements controls the update of said at least two of said plurality of processing elements (pages 3-5, 7, and 9, configEDGE, READMINMAX, FETCHMINMAX, READMEAS, FETCHSTATS, FETCHMEAS).

With respect to claims 5 and 26, Reference Guide teaches wherein said at least two of said plurality of processing elements are idle when not updated (i.e. only executed to perform processing when new data provided) (pages 3-5, 7, and 9,

configEDGE, READMINMAX, FETCHMINMAX, READMEAS, FETCHSTATS, FETCHMEAS).

With respect to claims 6 and 27, Reference Guide teaches wherein one of said at least two of said plurality of processing elements is of a cumulative type running at a first speed, and another of said at least two of said plurality of processing elements is of a non-cumulative type running at a second speed, and wherein the first speed is higher than the second speed (i.e. EASYACQUIRE, TIMEBASEACQUIRE, etc. cumulatively acquire data while READMINMAX, FETCHMINMAX, READMEAS, FETCHSTATS, FETCHMEAS are non-cumulative and since they depend on the acquired data, inherently run at a speed slower than the cumulative processing) (pages 1, 4, 5, 7, and 8).

With respect to claims 11, 32, and 48, Reference Guide teaches wherein one of said plurality of processing elements requests data from an upstream source when data is requested from it by a downstream processing element (i.e. when FETCHSTATS is executed it requires measurement data to be processed and thereby requests READMEAS to process a waveform in order to provide FETCHSTATS with the required measurement data as a result of the fetch -page 7, READMEAS and FETCHSTATS- and repetitively performs acquiring processing based on a request to fetch more data –Figure, page 8).

With respect to claims 44, 46, and 49, Reference Guide teaches wherein the upstream one of said processing elements transmits the processed waveform data

to the at least one of the plurality of processing elements requesting processed waveform data therefrom without an intervening buffer (Figure, page 8).

It would have been obvious to one having ordinary skill in the art to modify the invention of NI 5911 to include the corresponding graphical programming, as taught by Reference Guide, because Reference Guide suggests the corresponding programming required to carry out the programming in NI 5911 in a manner that would have reduced the burden of the user by employing an easily discernable graphical interface.

With respect to claims 4 and 25, NI 5911 teaches processing elements to display a processed waveform and Reference Guide teaches processing elements that operates at an acquisition speed. Further, since Reference Guide teaches that the data to be displayed, such as statistical data, is updated based on a result of periodically processed measured data, it is inherent that any resulting display speed must be slower than the acquisition speed.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over NI 5911 in view of Reference Guide and further in view of U.S. Patent No. 5,736,971 to Shirai.

As noted above, the invention of NI 5911 and Reference Guide teaches many of the features of the claimed invention, and while the invention of NI 5911 and Reference Guide does disclose updating processing elements based upon a request

with at least one processing element receiving at least one input and producing at least zero outputs, the combination does not explicitly describe the use of pins.

Shirai teaches a method and apparatus for increasing resolution of a computer graphics display including a display controller for connection to a CRT (column 5, lines 12-15) that receives data inputs through at least one input pin (i.e. pin connector CN1) (column 5, lines 34-45), produces outputs through at least one output pin (i.e. pin connectors CN2-CN4) (column 5, lines 4-6), and receives controlling instructions through a processor at a pin (i.e. pin connector CN1) (column 4, lines 43-49).

It would have been obvious to one having ordinary skill in the art to modify the invention of NI 5911 and Reference Guide to include specifying that the processing element uses pins, as taught by Shirai, because the invention of NI 5911 and Reference Guide does teach the application of the processing device that receives input data and outputs data but does not give the specifics as to how the data is received (i.e. through pins), and Shirai suggests a corresponding well-known structure applicable to carry out the invention of NI 5911 and Reference Guide that further allows synchronizing adjustments to improve processing (column 2, lines 45-50).

Response to Arguments

6. Applicant's arguments with respect to claims 2-6, 11, 13, 23-27, 32, and 43-49 have been considered but are moot in view of the new ground(s) of rejection.

The following arguments, however, are noted:

Applicant argues:

> The Advisory Action purportedly responds to Applicants' argument set out in the Amendment filed December 13, 2007, that the National Instruments Quick Reference Guide does not describe graphical elements that can be selected and interconnected by a user, by stating that whatever programming is described in The Quick Reference Guide and in the National Instruments NI 5911 User Manual is carried out as part of a LabVIEW Virtual instrument, and that LabVIEW uses a graphical programming language. However, this response fails to address Applicants' argument in the paragraph bridging pages 9 and 10 of the December 13, 2007 Amendment. Furthermore, if the LabVIEW Virtual instrument, LabVIEW programming language or LabVIEW details are relied upon by the Examiner, LabVIEW information sufficient to analyze and determine its sufficiency has not been made of record.

The Examiner asserts that the paragraph bridging pages 9 and 10 of the December 13, 2007, amendment states:

> There is yet another reason why National Instruments does not suggest to one of ordinary skill in the art the method of Applicants' claim 43 or the graphical processing web of claims 45 and 47. Claim 43 calls for "graphically connecting said plurality of processing elements to define a processing web." Claim 45 and 47 recite "graphically indicated connections." It is submitted that one who reads and understands the National Instruments literature would not be enabled thereby to graphically connect processing elements and would not observe graphically indicated connections. The Quick Reference Guide does not describe graphical elements, e.g. buttons, that can be selected and interconnected by a user. The footnotes at page of the Guide refer to programming languages (e.g. C, C++, LabWindows/CVI, Visual Basic) that are text- based languages as opposed to graphically-based tools. The Guide does not describe a graphical process flow programming environment. Although Fig. 8 of the Guide is entitled "Programming Flow," it is speculative to contend that this illustrates what is displayed to a user for manipulation and interconnection of processing elements. Rather, Fig. 8 simply illustrates the relationship among different subroutines. There is no suggestion that the user has the ability to pick and choose among the illustrated subroutines, interconnect selected ones to create a particular program and then display the selected interconnections.

The Examiner asserts that the Advisory Action mailed January 15, 2008, responded to such an argument stating:

> In response to Applicant's arguments that "The Quick Reference Guide does not describe graphical elements, e.g. buttons, that can be selected and interconnected by a user", the Examiner asserts that both the Quick Reference Guide and the NI 5911 User Manual indicate that programming is carried out as part of a LabVIEW Virtual instrument and the Examiner asserts that it is well-known in the art that LabVIEW uses a graphical programming language, G, to create programs in block diagram form, as illustrated in the Quick Reference Guide.

To further support such a position, the Examiner directs Applicant's attention to University of Illinois at Urbana-Champaign "Experiment 3B *LabVIEW Graphical Programming*" which describes that "NI-SCOPE Instrument Driver Quick Reference Guide: Easy Programming for National Instruments Oscilloscopes", when implemented using LabVIEW, uses a graphical programming language that includes icons/buttons representing components that are connected with wires to control flow of the program (see, for example, page 2, "LabVIEW program structure" and page 13, Figure 5).

Applicant also argues:

> It is respectfully submitted, claims 2-6, 11, 13, 23-27, 32 and 43-49, as previously presented, were patentably distinct over National Instruments, with or without Shirai. Nevertheless, in an effort to expedite the prosecution of this application to its successful conclusion, and to make explicit that which was clearly inferred but, apparently, was fully recognized, the independent claims, namely, claims 43, 45 and 47, are amended to make clear that an upstream processing element does not even begin to process the waveform data it receives until it gets a request for processed data from a downstream processing element; and, furthermore, the request is sent to the upstream processing element from the downstream processing element that has its update input activated, and not all processing elements have an update input. This feature is

> particularly recited in all of the independent claims, of which claim 43 is illustrative…
>
> This feature, as well as other features recited in the independent claims, is not suggested in the National Instruments literature. That is, National Instruments does not show or suggest that when the update input of a downstream element is activated, that element sends to an upstream element that does not have an update input a request for data. The upstream element that receives that request is idle until that request is received and then initiates processing of data that is sent to the downstream element. There is no processing and storage (e.g. in a buffer) of data by an upstream element, waiting for a downstream element to request that data. Processing is not initiated until the request for processed data is received. For this reason alone, Claim 43, as well as claims 45 and 47 that include similar recitations, should be found allowable over National Instruments.

After careful consideration of Applicant's arguments and a thorough re-reading of the reference, the Examiner disagrees with Applicant's interpretation of National Instruments, "NI-SCOPE Instrument Driver Quick Reference Guide: Easy Programming for National Instruments Oscilloscopes" (hereafter "Reference Guide").

The Examiner asserts the processing elements of Reference Guide are divided into "Initiate and Close", "Application", "Configuration", "Acquisition", "Error", "Utility", and "Waveform Measurement" functions. The Examiner also asserts that, as illustrated in the Figure on page 8 of Reference Guide, several of the functions are designated as "Repetitively Acquire Data" and others are designated as "Fetch More Data" and, in particular, "READMEAS" is designated as "Repetitively Acquire Data" and "FETCHSTATS" is designated as "Fetch More Data". One having ordinary skill in the art, especially in light of the descriptions of "NISCOPE INITIATE", "NISCOPE ABORT", and "NISCOPE READ" on page 4, would understand that the acquisition processors remain in an idle state and continuously acquire data until called upon to perform some processing and therefore have no specific update input. The

Examiner also asserts that one having ordinary skill in the art would recognize that the fetching processors, such as "FETCH STATS" that indicates that the "statistics are updated once per acquisition if the measurement is fetched", inherently have some type of update input to initiate the fetching.

Therefore, the Examiner asserts that since Reference Guide discloses that when FETCHSTATS is executed it requires measurement data to be processed and thereby requests READMEAS to process a waveform in order to provide FETCHSTATS with the required measurement data as a result of the fetch (page 7, READMEAS and FETCHSTATS) and further since Reference Guide discloses that READMEAS remains idle until called upon and does not have an update input due to its continual acquisition and FETCHSTATS inherently includes some type of update input to initiate the fetching, the Examiner maintains that Reference Guide discloses "less than all of said processing elements having update inputs activated to process the waveform data received thereby" and "at least one of said plurality of processing elements having an update input responds to the activation of said update input to request processing from an upstream one of said plurality of processing elements that does not have an update input and that is idle until receipt of said request".

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure:

University of Illinois at Urbana-Champaign "Experiment 3B *LabVIEW Graphical Programming*" describes operation of LabVIEW using a graphical programming language that includes icons/buttons representing components that are connected with wires to control flow of the program.

U.S. Patent No. 4,809,189 to Batson discloses a method for configuring and performing processing in a digital oscilloscope processing apparatus (column 2, lines 13-14), comprising the steps of receiving one or more input parameters (column 4, line 56 to column 5, line 8 and column 19, lines 16-33), defining a plurality of processing elements based upon said received one or more input parameters (column 18, line 53 to column 19, line 33, column 19, lines 38-68 and column 20, lines 43-48) and connecting said plurality of processing elements to define a processing web (column 4, lines 14-56 and Figure 1), wherein at least one of said plurality of processing elements requests processing from an upstream one of said plurality of processing elements so that upon said request, the upstream processing element performs said requested processing to provide required data to the at least one processing element (i.e. the display controller requests the memory management unit "14" to process memory access communications to control access to memory banks in the waveform memory "16" and returns the required data, as part of a read access communication, from waveform memory back to the display controller) (column 5, lines 9-29 and 51-65 and Figure 1).

U.S. Patent No. 5,301,336 to Kodosky teaches a method for configuring and performing processing in an instrument comprising the steps of receiving one or

more input signals by the instrument (column 9, lines 44-47, column 10, lines 54-59 and column 15, lines 4-20), receiving one or more input parameters by the instrument (column 32, lines 47-50), defining a set of instructions input by a user to be associated with one or more processing elements of the instrument, based upon said one or more input parameters (column 9, lines 58-64 and column 32, line 48 to column 33, line 16), to enable said processing elements to carry out said instructions and perform processing on the received input signals within the instrument upon application of the associated processing element (column 33, line 66 to column 34, line 13), assigning a graphical representative for each said processing element (column 32, lines 5-7 and column 33, lines 19-25), coupling one or more of the received input signals to one or more processing element graphical representatives (column 31, lines 13-18 and column 34, lines 2-13), and connecting respective ones of said processing element graphical representatives to define and graphically depict a processing web for performing corresponding processing on said one or more received input signals within said instrument (column 34, lines 1-16 and Figure 74).

U.S. Patent No. 6,570, 592 to Sajdak et al. teaches a system and method for specifying trigger condition of a signal measurement system using graphical elements on a graphical user interface.

U.S. Patent No. 5,953,009 to Alexander teaches a graphical system and method for invoking measurements in a signal measurement system.

U.S. Patent No. 5,920,479 to Sojoodi et al. discloses a method for configuring and performing processing in a digital oscilloscope (column 1, lines 60-67)

comprising the steps of receiving one or more input signals by the digital oscilloscope (column 3, lines 10-21 and column 13, lines 51-67), receiving one or more input parameters by the digital oscilloscope (column 19, lines 48-59), selecting a set of instructions by a user (column 15, lines 11-15, column 17, lines 30-54, and column 25, lines 46-56) to be associated with one or more processing elements of the digital oscilloscope, based upon said one or more input parameters, to enable said processing elements to carry out said instructions and perform processing on the received input signals within the digital oscilloscope upon application of the associated processing element (column 10, lines 59-64), assigning a graphical representative for each said processing element (column 13, lines 51-67), coupling one or more of the received input signals to one or more processing element graphical representatives (column 13, lines 51-67), and connecting respective ones of said processing element graphical representatives to define and graphically depict a processing web for performing corresponding processing on said one or more received input signals within said digital oscilloscope (column 17, line 55 to column 18, line 32).

U.S. Patent No. 5,668,469 to Natori et al. teaches a digital oscilloscope using a color plane display device and data display method comprising a plurality of processing elements, including acquisition devices and display devices, (Figure 1), wherein the data read out of a display memory using a display controller is in synchronization with the other processing elements (abstract and column 4, line 42 to column 5, line 14).

U.S. Patent No. 4,072,851 to Rose teaches a waveform measuring instrument with resident programmed processor for controlled waveform display and waveform data reduction and calculation.

U.S. Patent No. 6,121,799 to Moser teaches an interleaved digital peak detector.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY R. WEST whose telephone number is (571)272-2226. The examiner can normally be reached on Monday through Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571)272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeffrey R. West/
Primary Examiner, Art Unit 2857

March 26, 2008